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## CONVERT SOVIET MACHINE-TOOL PRODUCTION TO CONVEYER METHODS

PRODUCE LATHE BY CONVEYER METHOD -- Moscow, Ogonek, Feb 51

The production of the ID63A lathe was converted to conveyer methods at the Tbilisi Machine-Tool Building Plant imeni Kirov

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Formerly, all metalworking machine tools were grouped according to type; that is, all lathes stood side by side, milling machines were similarly aligned, etc. The first task was to rearrange the order of these machines. The lathe was to follow the milling machine and the grinding machine was to follow the lathe. The idea was to send a part on its journey from one end of the shop, moving forward continuously from one machine to the next, until it reached the other end of the shop, where it would be ready for assembly.

Fourteen conveyer lines were to be set up in the shop. Basic parts such as beds, gear boxes, and aprons were to be machined in the first line; feed boxes, tailstocks, etc., in the second line; flat parts in the next few lines; and finally, parts such as spindles, lead screws, and shafts in the last few lines.

The 14 lines would be like 14 rivulets flowing into one large stream, the assembly conveyer.

Here, everything had to be calculated to the minute and second; there could be no holdup whatever because the slightest delay of one part would impede the entire assembly process.

Every technological process was carefully calculated and scheduled; time was allotted for the most insignificant operation. Then the arrangement of equipment was planned.

Two hundred machine tools had to be taken off their foundations and 200 other foundations had to be prepared for them.



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Roller and other conveyers were installed for carrying the parts being processed. There are more than 800 parts in the ID63A lathe.

The task would have been comparatively easy if the plant had shut down temporarily and the forces within the plant had been devoted to moving the equipment; or, if not the whole plant, then at least the shop. However, this could not be done because the shop had to continue manufacturing the ID63A lathes in the same quantities as before, and as if the conversion of a technological process were not taking place.

Could this be done? The Tbilisi machine-tool builders agreed that it could if the goal were worthwhile. This goal was to convert the production of the most indispensable lathe to conveyer methods.

A precise schedule was worked out for transferring each machine tool to its new location. Each worker knew the exact day and hour that his machine would be moved. Up to that time, he prepared a surplus of parts to last for the number of days that his machine would be inoperative.

Usually, the moving started on Saturday evening and lasted through Sunday. Another day or two was spent on tuning and adjusting each machine, which was then ready to assume its position in the conveyer line.

During these days, highly productive special and combination machine tools that had been promised by the ministry began to arrive from Moscow, Gor'kiy and other cities. Space had been provided and prepared for these machines, and they were put in operation immediately. A 34-spindle combination boring machine was sent from the Moscow Plant imeni Ordzhonikidze. Formerly, it took 6 hours to machine the headstock for the ID63A lathe; now, with 34 cutting tools working on it simultaneously, it can be machined in 50 minutes. A ten-spindle planomilling machine arrived from Gor'kiy. Instead of 8 hours, only 1½ hours are now required to machine the bed for the ID63A lathe.

Although all machines were set up and the lines were equipped with conveyers, a few more months passed before the conveyer system was thoroughly adjusted and the workers became used to it and mastered its operation.

In time, the plant began producing the ID63A lathe in quantities according to plan.

UNIFY SHOPS, INSTALL CONVEYER -- Yerevan, Kommunist, 28 Mar 51

Unification of machine shops at the Yerevan Machine-Tool Building Plant imeni Dzerzhinskiy is taking place, and an intermittent conveyer line for the manufacture of gears, shafts, and bushings is being installed.

MECHANIZE TRANSPORT; CONTROL RAW MATERIAL -- Tbilisi, Zarya Vostoka, 22 Mar 51

Technologies are being modernized and new techniques are being introduced at the Tbilisi Stanok Machine-Tool Building Plant. Recently, two overhead traveling cranes and four monorail telphers have been installed in the foundry and assembly shop. This has cut the need for auxiliary workers three times and has greatly accelerated intershop transport.

Very strict control in the release of all types of raw material has been established. New, reviewed norms must provide for proper consumption of every kilogram of steel, cast iron, bronze, and other materials.

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PRODUCE SUPERPRECISION JIG-BORING MACHINE -- Moscow, Vechernyaya Moskva, 31 Mar 51

Two small metal parts, identical in size and shape, were measured under a microscope. The microscope showed that nowhere, either along a hole or bend, did one part differ from the other, not even to the extent of one hundredth of a hair.

These parts were manufactured on a new Soviet superprecision jig-boring machine. The Moscow Internal-Grinding Machine Plant recently completed the manufacture of this unique aggregate.

The construction of this machine required vast skill on the part of workers. Grinding of parts was carried out in a special shop-laboratory where instruments automatically kept the air at an absolutely even temperature.

DESIGN NEW LATHE -- Moscow, Pravda, 23 Mar 51

In a short period of time, personnel at the Ryazan' Machine-Tool Building Plant designed a new type of screw-cutting lathe.

PRODUCES OWN CAST IRON -- Moscow, Trud, 22 Mar 51

In 1950, other plants supplied the Tbilisi Stanok Plant with cast iron for manufacturing bolt-cutting machines. Now, this plant produces its own castings for these machines. This decreases the consumption of metal and shortened the production cycle. In 2½ months of 1951, three bolt-cutting machines have been manufactured from metal saved.

DECREASE METAL WASTE, SAVE TIME -- Moscow, Vechernyaya Moskva, 20 Mar 51

At the Moscow Machine-Tool Building Plant imeni Ordzhonikidze, the increased influx of valuable and effective suggestions has been particularly noteworthy.

Many machine-tool parts such as boxes, tanks, and other items are manufactured by welding sheet metal which has been cut according to a pattern. Uneven autogenous cutting frequently causes additional losses in subsequent machining. Dvorchuk, an electric welder, suggested that a jointed track be made for guiding the cutter. This made supplementary machining unnecessary and reduced the waste of several tons of valuable metal per year.

A great deal of time is spent on adjusting nonparallel spindles during machine-tool repair. Voronov, a fitter, has developed a self-centering mandrel which facilitates this operation.

Vasil'yev, foreman of the tool shop, designed an attachment for grinding thread milling cutters along the entire profile in one pass. This increased labor productivity 40 percent.

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